



Actual Wellpath Report

Remo Unit 2H AWP Proj: 19900'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #05
Area	Tyler County, WV	Well	Remo Unit 2H
Field	Tyler	Wellbore	Remo Unit 2H AWB
Facility	Ferrell North Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Delaset
Scale	0.999601	Report Generated	9/19/2019 at 6:01:57 PM
Convergence at slot	0.05° East	Database/Source file	WA_MPL_EasternUS_Defn/Remo_Unit_2H_AWP_Proj_19900_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	30.35	-0.81	1663420.02	14333953.64	39°28'20.710"N	80°55'06.550"W
Facility Reference Pt			1663420.83	14333923.30	39°28'20.410"N	80°55'06.540"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM			
Calculation method	Minimum curvature	H&P 519 (RKB) to Facility Vertical Datum	787.00ft
Horizontal Reference Pt	Slot	H&P 519 (RKB) to Mean Sea Level	787.00ft
Vertical Reference Pt	H&P 519 (RKB)	H&P 519 (RKB) to Ground Level at Slot (Slot #05)	30.00ft
MD Reference Pt	H&P 519 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	341.10°

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Field	Tyler	Wellbore	Remo Unit 2H AWP
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WELLPATH DATA (228 stations) † = interpolated/extrapolated station																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
0.00	0.00	184.820	0.00	0.00	0.00	0.00	1663420.02	14333953.64	39°28'20.710"N	80°55'06.550"W	0.00	0.000	0.00	0.00	0.00	
30.00	0.00	184.820	30.00	0.00	0.00	0.00	1663420.02	14333953.64	39°28'20.710"N	80°55'06.550"W	0.00	0.000	0.00	0.00	0.00	
115.00	0.410	184.820	115.00	-0.28	-0.30	-0.03	1663419.99	14333953.34	39°28'20.707"N	80°55'06.550"W	0.30	184.820	0.48	0.48	-206.09	Gyrodata MS Gyro <17-1/2">(115'-305')
140.00	0.540	217.010	140.00	-0.43	-0.49	-0.10	1663419.91	14333953.16	39°28'20.705"N	80°55'06.551"W	0.50	192.071	1.17	0.52	128.76	
165.00	0.630	225.970	165.00	-0.55	-0.68	-0.27	1663419.74	14333952.97	39°28'20.703"N	80°55'06.553"W	0.73	202.048	0.51	0.36	35.84	
190.00	0.740	224.980	190.00	-0.68	-0.89	-0.49	1663419.53	14333952.76	39°28'20.701"N	80°55'06.556"W	1.01	208.790	0.44	0.44	-3.96	
215.00	0.800	228.430	214.99	-0.82	-1.12	-0.73	1663419.29	14333952.53	39°28'20.699"N	80°55'06.559"W	1.33	213.248	0.30	0.24	13.80	
240.00	0.980	225.470	239.99	-0.98	-1.38	-1.01	1663419.00	14333952.26	39°28'20.696"N	80°55'06.563"W	1.71	216.290	0.74	0.72	-11.84	
265.00	0.970	219.830	264.99	-1.18	-1.69	-1.30	1663418.72	14333951.95	39°28'20.693"N	80°55'06.567"W	2.14	217.556	0.39	-0.04	-22.56	
290.00	1.040	220.330	289.98	-1.41	-2.03	-1.58	1663418.43	14333951.61	39°28'20.690"N	80°55'06.570"W	2.57	217.987	0.28	0.28	2.00	
305.00	1.070	220.650	304.98	-1.55	-2.24	-1.76	1663418.25	14333951.40	39°28'20.688"N	80°55'06.573"W	2.85	218.230	0.20	0.20	2.13	
422.00	0.940	214.560	421.96	-2.67	-3.86	-3.02	1663417.00	14333949.79	39°28'20.672"N	80°55'06.589"W	4.90	218.051	0.14	-0.11	-5.21	WFT EM <12-1/4">(305'x422'-2524')
515.00	0.920	197.910	514.95	-3.72	-5.20	-3.68	1663416.34	14333948.45	39°28'20.659"N	80°55'06.597"W	6.37	215.319	0.29	-0.02	-17.90	
608.00	1.970	215.620	607.92	-5.25	-7.21	-4.84	1663415.18	14333946.44	39°28'20.639"N	80°55'06.612"W	8.68	213.900	1.21	1.13	19.04	
700.00	3.900	221.340	699.79	-7.72	-10.84	-7.83	1663412.19	14333942.81	39°28'20.603"N	80°55'06.650"W	13.37	215.840	2.12	2.10	6.22	
793.00	5.620	220.380	792.47	-11.62	-16.69	-12.87	1663407.15	14333936.96	39°28'20.545"N	80°55'06.714"W	21.07	217.645	1.85	1.85	-1.03	
885.00	6.120	213.010	883.99	-16.94	-24.23	-18.46	1663401.56	14333929.42	39°28'20.471"N	80°55'06.786"W	30.46	217.304	0.98	0.54	-8.01	
982.00	6.310	204.940	980.42	-23.98	-33.40	-23.53	1663396.50	14333920.26	39°28'20.380"N	80°55'06.850"W	40.85	215.159	0.92	0.20	-8.32	
1077.00	6.600	206.850	1074.82	-31.55	-43.00	-28.19	1663391.84	14333910.66	39°28'20.285"N	80°55'06.910"W	51.42	213.248	0.38	0.31	2.01	
1171.00	7.510	218.320	1168.11	-38.65	-52.64	-34.44	1663385.59	14333901.02	39°28'20.190"N	80°55'06.990"W	62.91	213.194	1.78	0.97	12.20	
1266.00	8.040	223.000	1262.24	-45.14	-62.37	-42.82	1663377.21	14333891.29	39°28'20.094"N	80°55'07.097"W	75.66	214.471	0.87	0.56	4.93	
1361.00	8.520	217.430	1356.25	-52.17	-72.82	-51.63	1663368.41	14333880.85	39°28'19.991"N	80°55'07.209"W	89.27	215.337	0.98	0.51	-5.86	
1455.00	7.820	203.950	1449.30	-60.72	-84.20	-58.46	1663361.58	14333869.48	39°28'19.878"N	80°55'07.296"W	102.50	214.773	2.16	-0.74	-14.34	
1550.00	6.400	196.900	1543.57	-69.75	-95.17	-62.62	1663357.42	14333858.51	39°28'19.770"N	80°55'07.350"W	113.92	213.345	1.75	-1.49	-7.42	
1644.00	6.180	205.640	1637.01	-77.61	-104.74	-66.34	1663353.71	14333848.94	39°28'19.675"N	80°55'07.397"W	123.98	212.346	1.04	-0.23	9.30	
1739.00	7.230	223.180	1731.37	-84.05	-113.71	-72.64	1663347.41	14333839.97	39°28'19.587"N	80°55'07.478"W	134.93	212.570	2.41	1.11	18.46	
1834.00	7.920	227.180	1825.54	-89.51	-122.52	-81.53	1663338.52	14333831.17	39°28'19.500"N	80°55'07.591"W	147.17	213.641	0.91	0.73	4.21	
1928.00	8.260	225.830	1918.60	-95.02	-131.63	-91.12	1663328.93	14333822.07	39°28'19.410"N	80°55'07.714"W	160.09	214.694	0.41	0.36	-1.44	
2023.00	7.330	226.030	2012.72	-100.50	-140.59	-100.38	1663319.68	14333813.11	39°28'19.321"N	80°55'07.832"W	172.75	215.526	0.98	-0.98	0.21	
2118.00	7.570	225.420	2106.92	-105.78	-149.19	-109.20	1663310.86	14333804.51	39°28'19.236"N	80°55'07.944"W	184.89	216.202	0.27	0.25	-0.64	

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Area	Tyler County, WV	Well	Remo Unit 2H
Field	Tyler	Wellbore	Remo Unit 2H AWP
Facility	Ferrell North Pad		

WELLPATH DATA (228 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
2213.00	7.480	219.810	2201.10	-111.70	-158.33	-117.62	1663302.45	14333795.37	39°28'19.146"N	80°55'08.052"W	197.24	216.606	0.78	-0.09	-5.91	
2307.00	7.160	211.950	2294.34	-118.58	-168.00	-124.63	1663295.43	14333785.71	39°28'19.051"N	80°55'08.141"W	209.19	216.570	1.12	-0.34	-8.36	
2402.00	6.250	209.620	2388.69	-125.74	-177.52	-130.32	1663289.75	14333776.19	39°28'18.957"N	80°55'08.214"W	220.22	216.283	1.00	-0.96	-2.45	
2524.00	5.810	213.880	2510.02	-133.87	-188.42	-137.05	1663283.03	14333765.29	39°28'18.849"N	80°55'08.300"W	232.99	216.030	0.51	-0.36	3.49	
2665.00	6.060	215.020	2650.26	-142.57	-200.44	-145.30	1663274.78	14333753.28	39°28'18.730"N	80°55'08.405"W	247.57	215.937	0.20	0.18	0.81	WFT EM <8-3/4">(2524')(2665'-5696')
2760.00	6.100	212.870	2744.73	-148.65	-208.79	-150.91	1663269.16	14333744.94	39°28'18.648"N	80°55'08.477"W	257.62	215.859	0.24	0.04	-2.26	
2854.00	5.970	209.670	2838.20	-154.98	-217.23	-156.04	1663264.04	14333736.50	39°28'18.564"N	80°55'08.542"W	267.47	215.691	0.38	-0.14	-3.40	
2949.00	6.930	214.140	2932.60	-161.69	-226.27	-161.71	1663258.38	14333727.46	39°28'18.475"N	80°55'08.615"W	278.11	215.552	1.14	1.01	4.71	
3043.00	7.370	213.470	3025.87	-168.78	-235.99	-168.21	1663251.87	14333717.75	39°28'18.379"N	80°55'08.698"W	289.81	215.481	0.48	0.47	-0.71	
3140.00	7.480	210.910	3122.06	-176.65	-246.60	-174.89	1663245.20	14333707.14	39°28'18.274"N	80°55'08.783"W	302.32	215.344	0.36	0.11	-2.64	
3235.00	7.670	218.930	3216.23	-184.02	-256.84	-182.05	1663238.04	14333696.91	39°28'18.173"N	80°55'08.874"W	314.81	215.329	1.13	0.20	8.44	
3329.00	7.740	218.040	3309.38	-190.81	-266.70	-189.89	1663230.20	14333687.05	39°28'18.076"N	80°55'08.974"W	327.40	215.451	0.15	0.07	-0.95	
3424.00	7.930	214.690	3403.50	-198.19	-277.13	-197.56	1663222.53	14333676.63	39°28'17.973"N	80°55'09.072"W	340.34	215.485	0.52	0.20	-3.53	
3519.00	8.020	212.820	3497.58	-206.19	-288.09	-204.88	1663215.22	14333665.67	39°28'17.865"N	80°55'09.166"W	353.51	215.420	0.29	0.09	-1.97	
3613.00	7.880	211.260	3590.68	-214.38	-299.10	-211.78	1663208.32	14333654.66	39°28'17.756"N	80°55'09.254"W	366.49	215.301	0.27	-0.15	-1.66	
3708.00	7.820	217.420	3684.79	-222.13	-309.80	-219.09	1663201.02	14333643.96	39°28'17.650"N	80°55'09.347"W	379.44	215.267	0.89	-0.06	6.48	
3803.00	7.920	217.220	3778.89	-229.37	-320.15	-226.97	1663193.13	14333633.62	39°28'17.548"N	80°55'09.448"W	392.44	215.335	0.11	0.11	-0.21	
3898.00	6.760	211.910	3873.11	-236.55	-330.11	-233.89	1663186.22	14333623.67	39°28'17.449"N	80°55'09.536"W	404.57	215.319	1.41	-1.22	-5.59	
3992.00	6.320	209.010	3966.50	-243.51	-339.33	-239.32	1663180.79	14333614.45	39°28'17.358"N	80°55'09.606"W	415.23	215.195	0.59	-0.47	-3.09	
4087.00	6.210	208.260	4060.93	-250.51	-348.43	-244.29	1663175.82	14333605.36	39°28'17.269"N	80°55'09.669"W	425.53	215.035	0.14	-0.12	-0.79	
4181.00	7.250	208.620	4154.28	-257.97	-358.11	-249.54	1663170.58	14333595.67	39°28'17.173"N	80°55'09.736"W	436.48	214.870	1.11	1.11	0.38	
4276.00	7.730	208.190	4248.47	-266.37	-369.01	-255.43	1663164.69	14333584.79	39°28'17.065"N	80°55'09.811"W	448.79	214.691	0.51	0.51	-0.45	
4370.00	7.800	205.980	4341.61	-275.20	-380.31	-261.21	1663158.91	14333573.48	39°28'16.954"N	80°55'09.885"W	461.38	214.483	0.33	0.07	-2.35	
4465.00	7.530	210.530	4435.76	-283.81	-391.47	-267.20	1663152.93	14333562.33	39°28'16.843"N	80°55'09.962"W	473.96	214.315	0.70	-0.28	4.79	
4562.00	7.730	211.030	4531.91	-292.15	-402.53	-273.79	1663146.34	14333551.27	39°28'16.734"N	80°55'10.046"W	486.82	214.222	0.22	0.21	0.52	
4657.00	8.090	209.290	4626.00	-300.72	-413.84	-280.35	1663139.78	14333539.97	39°28'16.622"N	80°55'10.130"W	499.86	214.115	0.46	0.38	-1.83	
4751.00	8.070	212.130	4719.07	-309.27	-425.19	-287.10	1663133.04	14333528.62	39°28'16.510"N	80°55'10.216"W	513.04	214.028	0.43	-0.02	3.02	
4845.00	7.530	211.690	4812.20	-317.33	-436.02	-293.84	1663126.29	14333517.80	39°28'16.403"N	80°55'10.302"W	525.79	213.977	0.58	-0.57	-0.47	
4940.00	7.750	209.150	4906.36	-325.57	-446.91	-300.23	1663119.91	14333506.91	39°28'16.296"N	80°55'10.384"W	538.40	213.893	0.42	0.23	-2.67	
5034.00	7.800	216.800	4999.49	-333.40	-457.56	-307.14	1663113.00	14333496.27	39°28'16.191"N	80°55'10.472"W	551.08	213.872	1.10	0.05	8.14	

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Area	Tyler County, WV		Well	Remo Unit 2H
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Facility	Ferrell North Pad			

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MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments	
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(US ft)	(US ft)			(ft)	(°)	("/100ft)	("/100ft)	("/100ft)		
5129.00	6.790	217.500	5093.72	-340.14	-467.17	-314.42	1663105.72	14333486.66	39°28'16.096"N	80°55'10.565"W	563.13	213.942	1.07	-1.06	0.74		
5223.00	6.690	214.180	5187.07	-346.50	-476.11	-320.88	1663099.27	14333477.72	39°28'16.007"N	80°55'10.647"W	574.15	213.978	0.43	-0.11	-3.53		
5318.00	7.360	217.740	5281.36	-353.17	-485.50	-327.71	1663092.44	14333468.34	39°28'15.914"N	80°55'10.734"W	585.75	214.019	0.84	0.71	3.75		
5381.00	7.570	234.030	5343.83	-356.61	-491.13	-333.54	1663086.61	14333462.71	39°28'15.859"N	80°55'10.809"W	593.68	214.182	3.36	0.33	25.86		
5444.00	7.920	252.740	5406.27	-357.71	-494.86	-341.05	1663079.11	14333458.98	39°28'15.822"N	80°55'10.905"W	601.00	214.574	4.02	0.56	29.70		
5507.00	9.580	279.630	5468.56	-355.08	-495.27	-350.36	1663069.79	14333458.57	39°28'15.818"N	80°55'11.023"W	606.67	215.276	6.93	2.63	42.68		
5570.00	14.730	296.370	5530.15	-346.87	-490.83	-362.72	1663057.44	14333463.01	39°28'15.862"N	80°55'11.181"W	610.31	216.464	9.83	8.17	26.57		
5633.00	19.850	307.640	5590.29	-332.25	-480.73	-378.38	1663041.79	14333473.11	39°28'15.962"N	80°55'11.380"W	611.78	218.206	9.68	8.13	17.89		
5696.00	23.300	323.160	5648.92	-311.45	-464.21	-394.34	1663025.84	14333489.62	39°28'16.126"N	80°55'11.584"W	609.09	220.348	10.54	5.48	24.63		
5738.00	25.630	335.380	5687.17	-294.49	-449.29	-403.11	1663017.07	14333504.53	39°28'16.273"N	80°55'11.695"W	603.62	221.899	13.24	5.55	29.10	BH AT Curve <8-1/2">(5696')(5738'-19875')	
5800.00	28.380	337.550	5742.41	-266.44	-423.48	-414.33	1663005.86	14333530.34	39°28'16.528"N	80°55'11.838"W	592.45	224.374	4.71	4.44	3.50		
5895.00	36.930	333.450	5822.33	-215.52	-376.99	-435.75	1662984.44	14333576.81	39°28'16.988"N	80°55'12.111"W	576.19	229.135	9.29	9.00	-4.32		
5989.00	45.590	327.500	5892.95	-154.76	-323.29	-466.48	1662953.72	14333630.49	39°28'17.519"N	80°55'12.502"W	567.55	235.277	10.11	9.21	-6.33		
6031.00†	49.618	326.597	5921.26	-124.68	-297.27	-483.35	1662936.86	14333656.49	39°28'17.776"N	80°55'12.717"W	567.45	238.408	9.72	9.59	-2.15	Middlesex: 6031' MD	
6084.00	54.710	325.600	5953.76	-84.26	-262.55	-506.70	1662913.52	14333691.20	39°28'18.120"N	80°55'13.014"W	570.68	242.609	9.72	9.61	-1.88		
6178.00	63.600	325.330	6001.91	-6.62	-196.14	-552.42	1662867.82	14333757.59	39°28'18.776"N	80°55'13.596"W	586.20	250.453	9.46	9.46	-0.29		
6190.00†	64.574	325.423	6007.15	3.77	-187.25	-558.55	1662861.69	14333766.46	39°28'18.864"N	80°55'13.675"W	589.10	251.466	8.15	8.12	0.77	Burkett: 6190' MD	
6251.00†	69.525	325.872	6030.93	57.89	-140.89	-590.23	1662830.02	14333812.81	39°28'19.323"N	80°55'14.078"W	606.81	256.574	8.15	8.12	0.74	Tully: 6251' MD	
6272.00	71.230	326.020	6037.98	76.98	-124.50	-601.31	1662818.95	14333829.19	39°28'19.485"N	80°55'14.219"W	614.06	258.302	8.15	8.12	0.70		
6312.00†	73.562	326.881	6050.08	113.87	-92.73	-622.38	1662797.89	14333860.95	39°28'19.799"N	80°55'14.487"W	629.25	261.526	6.18	5.83	2.15	Marcellus POE: 6312' MD	
6319.00	73.970	327.030	6052.04	120.38	-87.10	-626.04	1662794.23	14333866.58	39°28'19.855"N	80°55'14.534"W	632.07	262.080	6.18	5.83	2.12		
6367.00	76.520	327.570	6064.26	165.46	-48.04	-651.11	1662769.16	14333905.62	39°28'20.241"N	80°55'14.853"W	652.88	265.780	5.42	5.31	1.13		
6414.00	80.820	327.690	6073.49	210.26	-9.13	-675.78	1662744.51	14333944.52	39°28'20.626"N	80°55'15.167"W	675.84	269.226	9.15	9.15	0.26		
6461.00	83.930	328.690	6079.73	255.66	30.46	-700.33	1662719.97	14333984.09	39°28'21.017"N	80°55'15.480"W	700.99	272.490	6.94	6.62	2.13		
6508.00	87.750	330.660	6083.14	301.60	70.91	-723.99	1662696.32	14334024.53	39°28'21.417"N	80°55'15.781"W	727.46	275.594	9.14	8.13	4.19		
6556.00	90.180	331.300	6084.01	348.84	112.87	-747.27	1662673.05	14334066.47	39°28'21.832"N	80°55'16.078"W	755.75	278.590	5.24	5.06	1.33		
6650.00	90.280	326.630	6083.63	440.72	193.40	-795.72	1662624.62	14334146.96	39°28'22.628"N	80°55'16.695"W	818.88	283.661	4.97	0.11	-4.97		
6745.00	89.970	326.330	6083.42	532.64	272.60	-848.18	1662572.18	14334226.13	39°28'23.412"N	80°55'17.363"W	890.91	287.817	0.45	-0.33	-0.32		
6840.00	90.000	329.960	6083.45	625.21	353.27	-898.31	1662522.07	14334306.78	39°28'24.209"N	80°55'18.001"W	965.28	291.468	3.82	0.03	3.82		
6934.00	90.370	334.120	6083.14	718.01	436.28	-942.37	1662478.02	14334389.75	39°28'25.030"N	80°55'18.562"W	1038.47	294.842	4.44	0.39	4.43		

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Remo Unit 2H AWP Proj: 19900'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #05
Area	Tyler County, WV	Well	Remo Unit 2H
Field	Tyler	Wellbore	Remo Unit 2H AWB
Facility	Ferrell North Pad		

WELLPATH DATA (228 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
7028.00	90.340	335.490	6082.56	811.44	521.34	-982.39	1662438.02	14334474.77	39°28'25.871"N	80°55'19.071"W	1112.15	297.954	1.46	-0.03	1.46	
7123.00	90.340	339.210	6082.00	906.22	608.99	-1018.97	1662401.46	14334562.39	39°28'26.738"N	80°55'19.537"W	1187.08	300.865	3.92	0.00	3.92	
7217.00	90.310	343.750	6081.46	1000.19	698.10	-1048.81	1662371.62	14334651.46	39°28'27.619"N	80°55'19.916"W	1259.90	303.648	4.83	-0.03	4.83	
7311.00	89.910	347.100	6081.28	1093.91	789.06	-1072.47	1662347.98	14334742.39	39°28'28.518"N	80°55'20.217"W	1331.47	306.344	3.59	-0.43	3.56	
7406.00	90.120	348.020	6081.26	1188.31	881.83	-1092.93	1662327.53	14334835.12	39°28'29.435"N	80°55'20.477"W	1404.32	308.898	0.99	0.22	0.97	
7500.00	89.880	346.770	6081.26	1281.74	973.56	-1113.44	1662307.02	14334926.82	39°28'30.342"N	80°55'20.738"W	1479.05	311.166	1.35	-0.26	-1.33	
7595.00	90.400	350.800	6081.02	1375.86	1066.73	-1131.92	1662288.56	14335019.94	39°28'31.263"N	80°55'20.972"W	1555.36	313.302	4.28	0.55	4.24	
7689.00	90.120	347.880	6080.60	1468.88	1159.10	-1149.30	1662271.18	14335112.27	39°28'32.176"N	80°55'21.193"W	1632.30	315.243	3.12	-0.30	-3.11	
7784.00	90.520	344.480	6080.07	1563.49	1251.33	-1171.99	1662248.50	14335204.47	39°28'33.088"N	80°55'21.481"W	1714.47	316.875	3.60	0.42	-3.58	
7878.00	90.980	341.400	6078.84	1657.43	1341.18	-1199.56	1662220.94	14335294.28	39°28'33.976"N	80°55'21.832"W	1799.36	318.190	3.31	0.49	-3.28	
7973.00	91.820	337.470	6076.51	1752.34	1430.08	-1232.92	1662187.60	14335383.15	39°28'34.855"N	80°55'22.256"W	1888.17	319.234	4.23	0.88	-4.14	
8067.00	90.090	335.460	6074.95	1846.01	1516.24	-1270.44	1662150.08	14335469.27	39°28'35.707"N	80°55'22.734"W	1978.13	320.041	2.82	-1.84	-2.14	
8162.00	90.280	336.440	6074.64	1940.62	1602.99	-1309.16	1662111.38	14335555.99	39°28'36.564"N	80°55'23.227"W	2069.65	320.762	1.05	0.20	1.03	
8256.00	90.090	338.620	6074.34	2034.44	1689.85	-1345.08	1662075.47	14335642.81	39°28'37.423"N	80°55'23.684"W	2159.82	321.481	2.33	-0.20	2.32	
8351.00	89.780	336.790	6074.44	2129.26	1777.74	-1381.12	1662039.45	14335730.67	39°28'38.292"N	80°55'24.142"W	2251.19	322.156	1.95	-0.33	-1.93	
8445.00	90.030	333.840	6074.60	2222.78	1863.14	-1420.37	1662000.21	14335816.04	39°28'39.136"N	80°55'24.642"W	2342.81	322.680	3.15	0.27	-3.14	
8540.00	89.720	332.420	6074.81	2316.86	1947.88	-1463.31	1661957.29	14335900.74	39°28'39.974"N	80°55'25.189"W	2436.29	323.085	1.53	-0.33	-1.49	
8634.00	89.080	337.830	6075.79	2410.30	2033.13	-1502.83	1661917.79	14335985.95	39°28'40.817"N	80°55'25.692"W	2528.26	323.529	5.80	-0.68	5.76	
8729.00	89.420	342.790	6077.04	2505.26	2122.54	-1534.83	1661885.80	14336075.33	39°28'41.701"N	80°55'26.099"W	2619.32	324.129	5.23	0.36	5.22	
8823.00	89.910	343.260	6077.59	2599.20	2212.44	-1562.27	1661858.37	14336165.19	39°28'42.590"N	80°55'26.448"W	2708.43	324.773	0.72	0.52	0.50	
8918.00	90.180	341.240	6077.51	2694.18	2302.91	-1591.23	1661829.42	14336255.63	39°28'43.484"N	80°55'26.816"W	2799.18	325.357	2.15	0.28	-2.13	
9012.00	89.780	340.780	6077.55	2788.18	2391.79	-1621.82	1661798.85	14336344.48	39°28'44.363"N	80°55'27.205"W	2889.81	325.860	0.65	-0.43	-0.49	
9106.00	89.350	339.970	6078.26	2882.17	2480.33	-1653.39	1661767.29	14336432.98	39°28'45.238"N	80°55'27.607"W	2980.90	326.313	0.98	-0.46	-0.86	
9201.00	89.880	342.750	6078.90	2977.15	2570.34	-1683.75	1661736.94	14336522.95	39°28'46.128"N	80°55'27.993"W	3072.73	326.772	2.98	0.56	2.93	
9295.00	89.820	346.250	6079.14	3070.97	2660.90	-1708.87	1661711.84	14336613.48	39°28'47.023"N	80°55'28.313"W	3162.38	327.291	3.72	-0.06	3.72	
9390.00	90.000	350.770	6079.29	3165.15	2753.97	-1727.78	1661692.93	14336706.51	39°28'47.943"N	80°55'28.553"W	3251.09	327.897	4.76	0.19	4.76	
9484.00	90.310	350.620	6079.04	3257.84	2846.74	-1742.98	1661677.73	14336799.24	39°28'48.860"N	80°55'28.746"W	3337.95	328.522	0.37	0.33	-0.16	
9579.00	91.750	347.030	6077.33	3351.94	2939.90	-1761.39	1661659.34	14336892.37	39°28'49.781"N	80°55'28.979"W	3427.17	329.073	4.07	1.52	-3.78	
9673.00	90.920	342.390	6075.14	3445.71	3030.53	-1786.16	1661634.57	14336982.95	39°28'50.677"N	80°55'29.294"W	3517.74	329.485	5.01	-0.88	-4.94	
9768.00	90.520	338.750	6073.94	3540.68	3120.09	-1817.76	1661602.99	14337072.48	39°28'51.563"N	80°55'29.696"W	3610.99	329.775	3.85	-0.42	-3.83	

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #05
Area	Tyler County, WV	Well	Remo Unit 2H
Field	Tyler	Wellbore	Remo Unit 2H AWB
Facility	Ferrell North Pad		

WELLPATH DATA (228 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
9862.00	90.800	337.170	6072.86	3634.53	3207.22	-1853.03	1661567.73	14337159.57	39°28'52.424"N	80°55'30.145"W	3704.04	329.982	1.71	0.30	-1.68	
9957.00	90.550	337.430	6071.74	3729.31	3294.85	-1889.69	1661531.09	14337247.17	39°28'53.291"N	80°55'30.612"W	3798.28	330.165	0.38	-0.26	0.27	
10051.00	90.400	338.590	6070.96	3823.17	3382.01	-1924.88	1661495.91	14337334.29	39°28'54.152"N	80°55'31.060"W	3891.42	330.353	1.24	-0.16	1.23	
10145.00	90.520	340.610	6070.21	3917.13	3470.10	-1957.65	1661463.16	14337422.35	39°28'55.023"N	80°55'31.477"W	3984.22	330.571	2.15	0.13	2.15	
10240.00	90.580	340.320	6069.30	4012.12	3559.63	-1989.41	1661431.40	14337511.85	39°28'55.908"N	80°55'31.881"W	4077.83	330.800	0.31	0.06	-0.31	
10334.00	90.430	339.300	6068.47	4106.09	3647.85	-2021.85	1661398.98	14337600.03	39°28'56.780"N	80°55'32.294"W	4170.70	331.002	1.10	-0.16	-1.09	
10429.00	90.400	336.880	6067.78	4200.95	3735.98	-2057.30	1661363.55	14337688.12	39°28'57.652"N	80°55'32.745"W	4264.98	331.160	2.55	-0.03	-2.55	
10523.00	90.150	337.100	6067.33	4294.71	3822.50	-2094.04	1661326.82	14337774.61	39°28'58.507"N	80°55'33.213"W	4358.50	331.285	0.35	-0.27	0.23	
10618.00	90.520	335.360	6066.77	4389.36	3909.44	-2132.33	1661288.54	14337861.51	39°28'59.367"N	80°55'33.700"W	4453.15	331.391	1.87	0.39	-1.83	
10712.00	90.520	335.100	6065.92	4482.86	3994.78	-2171.71	1661249.18	14337946.82	39°29'00.211"N	80°55'34.201"W	4546.94	331.470	0.28	0.00	-0.28	
10807.00	90.490	336.650	6065.08	4577.46	4081.48	-2210.54	1661210.37	14338033.49	39°29'01.068"N	80°55'34.696"W	4641.66	331.560	1.63	-0.03	1.63	
10901.00	90.400	339.400	6064.35	4671.31	4168.64	-2245.71	1661175.21	14338120.61	39°29'01.929"N	80°55'35.143"W	4735.06	331.688	2.93	-0.10	2.93	
10996.00	90.580	342.540	6063.54	4766.30	4258.43	-2276.68	1661144.25	14338210.37	39°29'02.817"N	80°55'35.537"W	4828.82	331.870	3.31	0.19	3.31	
11090.00	90.460	343.790	6062.69	4860.23	4348.40	-2303.90	1661117.04	14338300.30	39°29'03.707"N	80°55'35.884"W	4921.03	332.084	1.34	-0.13	1.33	
11185.00	90.520	344.110	6061.87	4955.11	4439.69	-2330.17	1661090.79	14338391.55	39°29'04.609"N	80°55'36.218"W	5014.04	332.307	0.34	0.06	0.34	
11279.00	90.340	342.710	6061.17	5049.03	4529.78	-2357.00	1661063.96	14338481.60	39°29'05.500"N	80°55'36.559"W	5106.30	332.510	1.50	-0.19	-1.49	
11374.00	90.430	343.260	6060.53	5143.98	4620.61	-2384.80	1661036.17	14338572.40	39°29'06.398"N	80°55'36.913"W	5199.75	332.701	0.59	0.09	0.58	
11468.00	90.370	345.890	6059.87	5237.79	4711.22	-2409.80	1661011.18	14338662.97	39°29'07.293"N	80°55'37.230"W	5291.76	332.910	2.80	-0.06	2.80	
11562.00	90.520	346.960	6059.14	5331.38	4802.59	-2431.86	1660989.13	14338754.30	39°29'08.196"N	80°55'37.511"W	5383.20	333.144	1.15	0.16	1.14	
11657.00	90.620	345.860	6058.20	5425.97	4894.92	-2454.18	1660966.82	14338846.60	39°29'09.109"N	80°55'37.795"W	5475.70	333.372	1.16	0.11	-1.16	
11751.00	90.490	345.340	6057.29	5519.67	4985.97	-2477.56	1660943.45	14338937.61	39°29'10.009"N	80°55'38.092"W	5567.60	333.577	0.57	-0.14	-0.55	
11846.00	90.520	345.140	6056.45	5614.42	5077.83	-2501.76	1660919.26	14339029.43	39°29'10.917"N	80°55'38.400"W	5660.67	333.771	0.21	0.03	-0.21	
11940.00	90.490	343.500	6055.62	5708.27	5168.32	-2527.17	1660893.87	14339119.89	39°29'11.812"N	80°55'38.723"W	5753.10	333.943	1.74	-0.03	-1.74	
12035.00	90.340	340.400	6054.93	5803.24	5258.63	-2556.60	1660864.45	14339210.17	39°29'12.705"N	80°55'39.097"W	5847.17	334.072	3.27	-0.16	-3.26	
12129.00	90.030	338.430	6054.63	5897.20	5346.63	-2589.64	1660831.41	14339298.12	39°29'13.575"N	80°55'39.518"W	5940.76	334.157	2.12	-0.33	-2.10	
12224.00	90.060	339.680	6054.56	5992.13	5435.35	-2623.60	1660797.47	14339386.81	39°29'14.452"N	80°55'39.950"W	6035.42	334.234	1.32	0.03	1.32	
12318.00	90.090	340.440	6054.43	6086.12	5523.71	-2655.66	1660765.42	14339475.14	39°29'15.325"N	80°55'40.358"W	6128.94	334.323	0.81	0.03	0.81	
12413.00	90.280	340.730	6054.13	6181.11	5613.31	-2687.24	1660733.86	14339564.70	39°29'16.211"N	80°55'40.760"W	6223.38	334.418	0.36	0.20	0.31	
12507.00	90.250	340.520	6053.69	6275.11	5701.98	-2718.42	1660702.68	14339653.34	39°29'17.088"N	80°55'41.157"W	6316.84	334.511	0.23	-0.03	-0.22	
12602.00	90.060	337.580	6053.43	6370.04	5790.69	-2752.39	1660668.73	14339742.01	39°29'17.965"N	80°55'41.589"W	6411.53	334.578	3.10	-0.20	-3.09	

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Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #05
Area	Tyler County, WV	Well	Remo Unit 2H
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Facility	Ferrell North Pad		

WELLPATH DATA (228 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
12696.00	89.970	338.110	6053.41	6463.89	5877.75	-2787.84	1660633.30	14339829.04	39°29'18.826"N	80°55'42.040"W	6505.38	334.625	0.57	-0.10	0.56	
12791.00	90.030	340.760	6053.41	6558.84	5966.69	-2821.20	1660599.95	14339917.94	39°29'19.705"N	80°55'42.465"W	6600.05	334.694	2.79	0.06	2.79	
12885.00	90.620	341.770	6052.88	6652.83	6055.71	-2851.39	1660569.77	14340006.92	39°29'20.585"N	80°55'42.849"W	6693.43	334.786	1.24	0.63	1.07	
12980.00	90.400	340.960	6052.03	6747.83	6145.72	-2881.75	1660539.42	14340096.90	39°29'21.475"N	80°55'43.235"W	6787.81	334.878	0.88	-0.23	-0.85	
13074.00	90.580	339.450	6051.23	6841.81	6234.16	-2913.58	1660507.61	14340185.30	39°29'22.349"N	80°55'43.640"W	6881.41	334.951	1.62	0.19	-1.61	
13169.00	90.550	337.600	6050.29	6936.71	6322.56	-2948.36	1660472.84	14340273.66	39°29'23.223"N	80°55'44.083"W	6976.21	334.999	1.95	-0.03	-1.95	
13263.00	90.490	338.500	6049.44	7030.57	6409.74	-2983.49	1660437.72	14340360.81	39°29'24.085"N	80°55'44.530"W	7070.08	335.040	0.96	-0.06	0.96	
13358.00	90.580	339.770	6048.55	7125.51	6498.51	-3017.33	1660403.90	14340449.54	39°29'24.962"N	80°55'44.961"W	7164.83	335.094	1.34	0.09	1.34	
13452.00	90.550	341.810	6047.62	7219.49	6587.26	-3048.25	1660372.99	14340538.26	39°29'25.840"N	80°55'45.354"W	7258.37	335.168	2.17	-0.03	2.17	
13546.00	90.620	342.260	6046.66	7313.48	6676.67	-3077.24	1660344.01	14340627.64	39°29'26.724"N	80°55'45.723"W	7351.69	335.255	0.48	0.07	0.48	
13640.00	90.250	340.820	6045.95	7407.47	6765.83	-3107.01	1660314.26	14340716.76	39°29'27.605"N	80°55'46.102"W	7445.13	335.334	1.58	-0.39	-1.53	
13735.00	90.000	340.630	6045.74	7502.47	6855.51	-3138.37	1660282.91	14340806.40	39°29'28.492"N	80°55'46.501"W	7539.72	335.402	0.33	-0.26	-0.20	
13829.00	90.030	341.230	6045.72	7596.47	6944.35	-3169.08	1660252.21	14340895.20	39°29'29.370"N	80°55'46.892"W	7633.28	335.470	0.64	0.03	0.64	
13923.00	90.060	341.450	6045.64	7690.46	7033.41	-3199.15	1660222.15	14340984.23	39°29'30.251"N	80°55'47.275"W	7726.80	335.542	0.24	0.03	0.23	
14018.00	89.910	342.730	6045.67	7785.45	7123.80	-3228.37	1660192.95	14341074.58	39°29'31.144"N	80°55'47.647"W	7821.18	335.621	1.36	-0.16	1.35	
14112.00	90.000	342.210	6045.74	7879.42	7213.44	-3256.68	1660164.64	14341164.18	39°29'32.030"N	80°55'48.007"W	7914.52	335.702	0.56	0.10	-0.55	
14206.00	89.720	342.300	6045.97	7973.40	7302.96	-3285.33	1660136.01	14341253.67	39°29'32.915"N	80°55'48.371"W	8007.91	335.779	0.31	-0.30	0.10	
14301.00	89.690	342.020	6046.46	8068.38	7393.39	-3314.43	1660106.91	14341344.07	39°29'33.809"N	80°55'48.742"W	8102.33	335.853	0.30	-0.03	-0.29	
14395.00	89.600	341.420	6047.04	8162.38	7482.65	-3343.92	1660077.44	14341433.29	39°29'34.692"N	80°55'49.117"W	8195.84	335.921	0.65	-0.10	-0.64	
14490.00	89.750	341.330	6047.58	8257.37	7572.67	-3374.26	1660047.12	14341523.27	39°29'35.582"N	80°55'49.503"W	8290.41	335.983	0.18	0.16	-0.09	
14584.00	89.780	341.770	6047.97	8351.37	7661.84	-3404.00	1660017.38	14341612.41	39°29'36.463"N	80°55'49.882"W	8383.97	336.045	0.47	0.03	0.47	
14679.00	89.850	341.820	6048.28	8446.36	7752.08	-3433.68	1659987.71	14341702.61	39°29'37.355"N	80°55'50.259"W	8478.50	336.110	0.09	0.07	0.05	
14773.00	89.720	340.940	6048.63	8540.36	7841.16	-3463.70	1659957.71	14341791.66	39°29'38.236"N	80°55'50.641"W	8572.11	336.167	0.95	-0.14	-0.94	
14868.00	89.630	340.200	6049.17	8635.35	7930.75	-3493.90	1659926.12	14341881.21	39°29'39.122"N	80°55'51.043"W	8666.83	336.216	0.78	-0.09	-0.78	
14962.00	89.820	339.950	6049.62	8729.34	8019.12	-3527.33	1659894.10	14341969.54	39°29'39.995"N	80°55'51.451"W	8760.61	336.257	0.33	0.20	-0.27	
15057.00	90.740	338.860	6049.15	8824.29	8108.05	-3560.75	1659860.70	14342058.43	39°29'40.874"N	80°55'51.877"W	8855.47	336.291	1.50	0.97	-1.15	
15151.00	90.400	338.350	6048.22	8918.20	8195.56	-3595.04	1659826.42	14342145.92	39°29'41.740"N	80°55'52.313"W	8949.39	336.315	0.65	-0.36	-0.54	
15246.00	90.460	337.960	6047.51	9013.07	8283.74	-3630.39	1659791.09	14342234.06	39°29'42.611"N	80°55'52.763"W	9044.34	336.334	0.42	0.06	-0.41	
15340.00	91.350	336.860	6046.02	9106.86	8370.51	-3666.49	1659755.00	14342320.80	39°29'43.469"N	80°55'53.223"W	9138.31	336.345	1.51	0.95	-1.17	
15435.00	89.480	335.150	6045.33	9201.47	8457.29	-3705.12	1659716.39	14342407.54	39°29'44.327"N	80°55'53.715"W	9233.29	336.342	2.67	-1.97	-1.80	

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #05
Area	Tyler County, WV	Well	Remo Unit 2H
Field	Tyler	Wellbore	Remo Unit 2H AWB
Facility	Ferrell North Pad		

WELLPATH DATA (228 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
15529.00	91.020	340.310	6044.92	9295.28	8544.25	-3740.73	1659680.79	14342494.46	39°29'45.187"N	80°55'54.168"W	9327.23	336.356	5.73	1.64	5.49	
15624.00	91.350	344.030	6042.96	9390.22	8634.65	-3769.80	1659651.73	14342584.83	39°29'46.081"N	80°55'54.538"W	9421.71	336.414	3.93	0.35	3.92	
15718.00	91.600	345.810	6040.54	9483.98	8725.38	-3794.25	1659627.29	14342675.52	39°29'46.977"N	80°55'54.849"W	9514.65	336.498	1.91	0.27	1.89	
15813.00	91.540	346.970	6037.93	9578.54	8817.68	-3816.60	1659604.95	14342767.78	39°29'47.890"N	80°55'55.133"W	9608.22	336.595	1.22	-0.06	1.22	
15907.00	91.850	347.300	6035.15	9671.98	8909.28	-3837.52	1659584.04	14342859.34	39°29'48.795"N	80°55'55.399"W	9700.61	336.697	0.48	0.33	0.35	
16002.00	90.280	342.020	6033.39	9766.74	9000.84	-3862.64	1659558.93	14342950.87	39°29'49.700"N	80°55'55.719"W	9794.65	336.774	5.80	-1.65	-5.56	
16096.00	90.980	340.860	6032.35	9860.73	9089.94	-3892.55	1659529.03	14343039.94	39°29'50.581"N	80°55'56.100"W	9888.33	336.818	1.44	0.74	-1.23	
16191.00	90.090	339.070	6031.47	9955.70	9179.19	-3925.10	1659496.50	14343129.15	39°29'51.464"N	80°55'56.514"W	9983.18	336.848	2.10	-0.94	-1.88	
16285.00	91.080	340.070	6030.51	10049.66	9267.27	-3957.91	1659463.70	14343217.19	39°29'52.334"N	80°55'56.932"W	10077.07	336.873	1.50	1.05	1.06	
16380.00	90.620	338.810	6029.10	10144.61	9356.21	-3991.26	1659430.35	14343306.09	39°29'53.214"N	80°55'57.356"W	10171.96	336.897	1.41	-0.48	-1.33	
16474.00	90.650	336.700	6028.06	10238.44	9443.20	-4026.85	1659394.79	14343393.05	39°29'54.074"N	80°55'57.809"W	10265.94	336.905	2.24	0.03	-2.24	
16568.00	90.220	336.620	6027.34	10332.15	9529.50	-4064.09	1659357.56	14343479.32	39°29'54.927"N	80°55'58.283"W	10359.93	336.903	0.47	-0.46	-0.09	
16663.00	89.660	340.130	6027.44	10427.03	9617.80	-4099.09	1659322.57	14343567.59	39°29'55.800"N	80°55'58.729"W	10454.89	336.916	3.74	-0.59	3.69	
16757.00	90.860	343.770	6027.01	10521.00	9707.16	-4128.21	1659293.46	14343656.91	39°29'56.683"N	80°55'59.100"W	10548.51	336.961	4.08	1.28	3.87	
16852.00	90.950	341.400	6025.51	10615.95	9797.79	-4156.64	1659265.05	14343747.50	39°29'57.579"N	80°55'59.462"W	10643.04	337.011	2.50	0.09	-2.49	
16946.00	91.110	342.510	6023.82	10709.92	9887.15	-4185.75	1659235.95	14343836.82	39°29'58.462"N	80°55'59.832"W	10736.68	337.054	1.19	0.17	1.18	
17041.00	91.080	343.790	6022.01	10804.84	9978.05	-4213.28	1659208.43	14343927.69	39°29'59.361"N	80°56'00.182"W	10831.12	337.108	1.35	-0.03	1.35	
17135.00	90.120	342.370	6021.02	10898.78	10067.97	-4240.64	1659181.08	14344017.57	39°30'00.250"N	80°56'00.531"W	10924.61	337.159	1.82	-1.02	-1.51	
17230.00	90.280	344.140	6020.69	10993.71	10158.94	-4268.01	1659153.72	14344108.51	39°30'01.149"N	80°56'00.879"W	11019.07	337.212	1.87	0.17	1.86	
17324.00	90.120	346.120	6020.36	11087.47	10249.79	-4292.13	1659129.61	14344199.32	39°30'02.047"N	80°56'01.186"W	11112.18	337.278	2.11	-0.17	2.11	
17419.00	90.220	344.400	6020.08	11182.21	10341.66	-4316.30	1659105.45	14344291.15	39°30'02.956"N	80°56'01.493"W	11206.26	337.346	1.81	0.11	-1.81	
17513.00	90.310	342.570	6019.65	11276.13	10431.77	-4343.02	1659078.74	14344381.23	39°30'03.846"N	80°56'01.833"W	11299.72	337.397	1.95	0.10	-1.95	
17608.00	90.250	341.030	6019.18	11371.12	10522.02	-4372.69	1659049.08	14344471.44	39°30'04.739"N	80°56'02.211"W	11394.44	337.433	1.62	-0.06	-1.62	
17702.00	90.220	340.320	6018.80	11465.11	10610.72	-4403.80	1659017.99	14344560.10	39°30'05.615"N	80°56'02.607"W	11488.29	337.460	0.76	-0.03	-0.76	
17797.00	90.220	338.810	6018.43	11560.08	10699.74	-4436.96	1658984.84	14344649.09	39°30'06.495"N	80°56'03.029"W	11583.22	337.477	1.59	0.00	-1.59	
17891.00	90.250	339.030	6018.05	11654.01	10787.45	-4470.77	1658951.04	14344736.76	39°30'07.363"N	80°56'03.460"W	11677.19	337.489	0.24	0.03	0.23	
17986.00	90.370	338.480	6017.53	11748.93	10875.99	-4505.19	1658916.63	14344825.27	39°30'08.238"N	80°56'03.898"W	11772.17	337.499	0.59	0.13	-0.58	
18080.00	90.090	339.070	6017.16	11842.85	10963.61	-4539.23	1658882.61	14344912.85	39°30'09.104"N	80°56'04.331"W	11866.14	337.509	0.69	-0.30	0.63	
18174.00	89.910	340.770	6017.16	11936.82	11051.89	-4571.50	1658850.35	14345001.10	39°30'09.977"N	80°56'04.742"W	11960.06	337.528	1.82	-0.19	1.81	
18269.00	89.940	340.370	6017.28	12031.82	11141.48	-4603.10	1658818.77	14345090.65	39°30'10.863"N	80°56'05.145"W	12054.92	337.552	0.42	0.03	-0.42	

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #05
Area	Tyler County, WV	Well	Remo Unit 2H
Field	Tyler	Wellbore	Remo Unit 2H AWB
Facility	Ferrell North Pad		

WELLPATH DATA (228 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
18364.00	89.880	340.540	6017.43	12126.81	11231.01	-4634.88	1658787.00	14345180.14	39°30'11.748"N	80°56'05.549"W	12149.80	337.575	0.19	-0.06	0.18	
18458.00	89.970	340.970	6017.55	12220.81	11319.76	-4665.86	1658756.03	14345268.86	39°30'12.625"N	80°56'05.944"W	12243.66	337.599	0.47	0.10	0.46	
18553.00	89.630	341.410	6017.88	12315.81	11409.68	-4696.50	1658725.41	14345358.75	39°30'13.514"N	80°56'06.334"W	12338.47	337.627	0.59	-0.36	0.46	
18647.00	89.630	340.720	6018.49	12409.81	11498.59	-4727.00	1658694.92	14345447.62	39°30'14.393"N	80°56'06.722"W	12432.30	337.653	0.73	0.00	-0.73	
18742.00	89.690	340.810	6019.06	12504.80	11588.29	-4758.29	1658663.63	14345537.28	39°30'15.280"N	80°56'07.120"W	12527.16	337.676	0.11	0.06	0.09	
18836.00	89.690	340.960	6019.56	12598.80	11677.10	-4789.07	1658632.86	14345626.06	39°30'16.158"N	80°56'07.512"W	12621.01	337.700	0.16	0.00	0.16	
18931.00	89.690	340.740	6020.08	12693.80	11766.85	-4820.24	1658601.71	14345715.77	39°30'17.045"N	80°56'07.909"W	12715.87	337.724	0.23	0.00	-0.23	
19026.00	89.780	340.960	6020.52	12788.80	11856.59	-4851.40	1658570.56	14345805.47	39°30'17.932"N	80°56'08.306"W	12810.73	337.747	0.25	0.09	0.23	
19120.00	89.820	341.320	6020.85	12882.80	11945.54	-4881.79	1658540.19	14345894.39	39°30'18.811"N	80°56'08.693"W	12904.56	337.772	0.39	0.04	0.38	
19214.00	89.690	341.170	6021.25	12976.80	12034.55	-4912.01	1658509.98	14345983.36	39°30'19.691"N	80°56'09.077"W	12998.39	337.797	0.21	-0.14	-0.16	
19309.00	89.690	342.700	6021.76	13071.78	12124.86	-4941.47	1658480.53	14346073.64	39°30'20.584"N	80°56'09.452"W	13093.14	337.827	1.61	0.00	1.61	
19403.00	89.690	342.460	6022.27	13165.75	12214.55	-4969.61	1658452.40	14346163.29	39°30'21.471"N	80°56'09.810"W	13186.82	337.861	0.26	0.00	-0.26	
19498.00	89.780	341.490	6022.71	13260.74	12304.88	-4999.00	1658423.02	14346253.59	39°30'22.364"N	80°56'10.185"W	13281.57	337.890	1.03	0.09	-1.02	
19592.00	89.720	341.100	6023.12	13354.73	12393.92	-5029.15	1658392.89	14346342.59	39°30'23.244"N	80°56'10.568"W	13375.41	337.914	0.42	-0.06	-0.41	
19687.00	89.720	340.830	6023.58	13449.73	12483.72	-5060.13	1658361.92	14346432.35	39°30'24.132"N	80°56'10.963"W	13470.27	337.935	0.28	0.00	-0.28	
19781.00	89.660	342.810	6024.09	13543.72	12573.02	-5089.46	1658332.60	14346521.62	39°30'25.014"N	80°56'11.336"W	13564.05	337.962	2.11	-0.06	2.11	
19875.00	89.750	343.120	6024.58	13637.67	12662.90	-5117.00	1658305.07	14346611.46	39°30'25.903"N	80°56'11.687"W	13657.70	337.997	0.34	0.10	0.33	
19900.00	89.750	343.120	6024.69	13662.65	12686.82	-5124.26	1658297.82	14346635.37	39°30'26.139"N	80°56'11.779"W	13682.60	338.006	0.00	0.00	0.00	Projected MD at TD: 19900'

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Remo Unit 2H AWP Proj: 19900'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #05
Area	Tyler County, WV	Well	Remo Unit 2H
Field	Tyler	Wellbore	Remo Unit 2H AWB
Facility	Ferrell North Pad		

HOLE & CASING SECTIONS - Ref Wellbore: Remo Unit 2H AWB Ref Wellpath: Remo Unit 2H AWP Proj: 19900'									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
20in Conductor	30.00	110.00	80.00	30.00	110.00	0.00	0.00	-0.27	-0.02
17.5in Open Hole	110.00	410.40	300.40	110.00	410.36	-0.27	-0.02	-3.70	-2.91
13.375in Casing Surface	30.00	410.40	380.40	30.00	410.36	0.00	0.00	-3.70	-2.91
12.25in Open Hole	410.40	2617.00	2206.60	410.36	2602.52	-3.70	-2.91	-196.31	-142.42
9.625in Casing Intermediate	30.00	2617.00	2587.00	30.00	2602.52	0.00	0.00	-196.31	-142.42
8.75in Open Hole	2617.00	5766.00	3149.00	2602.52	5712.28	-196.31	-142.42	-437.99	-408.17
8.5in Open Hole	5766.00	19900.00	14134.00	5712.28	6024.69	-437.99	-408.17	12686.82	-5124.26
5.5in Casing Production	30.00	19900.00	19870.00	30.00	6024.69	0.00	0.00	12686.82	-5124.26

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Remo Unit 2H - POE - Rev-3	6049.00	-99.40	-637.15	1662783.12	14333854.28	39°28'19.733"N	80°55'14.676"W	point
Remo Unit 2H - LP - Rev-3	6087.00	95.81	-759.13	1662661.19	14334049.41	39°28'21.664"N	80°55'16.229"W	point
Remo Unit 2H - BHL - Rev-2	6087.00	12691.23	-5123.31	1658298.76	14346639.78	39°30'26.183"N	80°56'11.767"W	point

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #05
Area	Tyler County, WV	Well	Remo Unit 2H
Field	Tyler	Wellbore	Remo Unit 2H AWB
Facility	Ferrell North Pad		

WELLPATH COMPOSITION - Ref Wellbore: Remo Unit 2H AWB Ref Wellpath: Remo Unit 2H AWP Proj: 19900'				
Start MD (ft)	End MD (ft)	Positional Uncertainty Model	Log Name/Comment	Wellbore
30.00	305.00	Gyrodatta standard - Drop gyro or Multi-shot	01 Gyrodatta MS Gyro <17-1/2">(115'-305')	Remo Unit 2H AWB
305.00	2524.00	OWSG MWD rev2 + HRGM	02 WFT EM <12-1/4">(305')(422'-2524')	Remo Unit 2H AWB
2524.00	5696.00	OWSG MWD rev2 + HRGM	03 WFT EM <8-3/4">(2524')(2665'-5696')	Remo Unit 2H AWB
5696.00	19875.00	BHI AutoTrak Curve (Short)	04 BH AT Curve <8-1/2">(5696')(5738'-19875')	Remo Unit 2H AWB
19875.00	19900.00	Blind Drilling (std)	Projection to bit	Remo Unit 2H AWB

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Actual Wellpath Report

Remo Unit 2H AWP Proj: 19900'

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COMMENTS

Wellpath general comments

API: 47-095-02579-0000

BHI Job #: 110021724A

Rig: H&P 519

Duration: 09/15/2019-09/18/2019

Gyrodata MS Gyro <17-1/2">(115'-305')

WFT EM <12-1/4">(305')(422'-2524')

WFT EM <8-3/4">(2524')(2665'-5696')

BH AT Curve <8-1/2">(5696')(5738'-19875')

Middlesex: 6031' MD

Burkett: 6190' MD

Tully: 6251' MD

Marcellus POE: 6312' MD

Projected MD at TD: 19900'

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